



Risk Based Process Safety

Better Process Safety Results With
Fewer Resources

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Risk Based Process Safety

- CCPS project
- Why it is important
- What it is
- How it will be beneficial to you
- What you can do to help



Risk Based Process Safety

- CCPS process safety management book
- First CCPS management book since 1994
- Will be the process safety management standard for the next 10 to 15 years



Process Safety System Improvement

- Pre-Bhopal – Informal programs in line management
- CCPS & OSHA 1910.119 – Programs became more formal. Compliance an issue
- PSM Efficiency improvements
- Managing stable PSM systems with fewer resources

From informal systems to stable formal systems

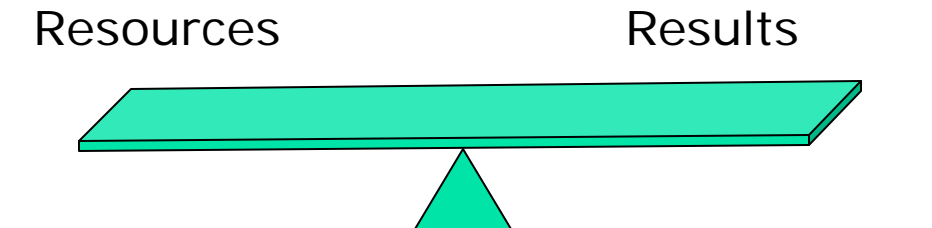


Since Last CCPS Management Book

- Continued expectation for improvement in process safety results.
- Fewer resources
 - Maintenance
 - Technical
 - Process safety
- More cost control
 - 6 sigma
 - Re-organizations

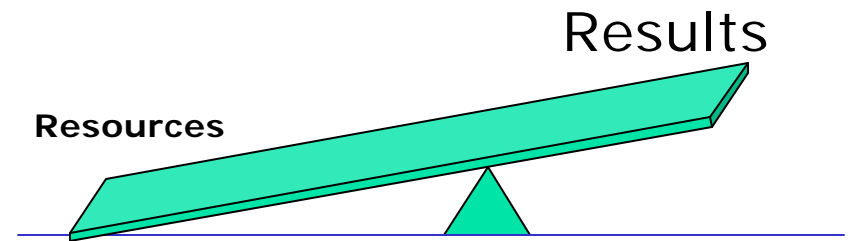
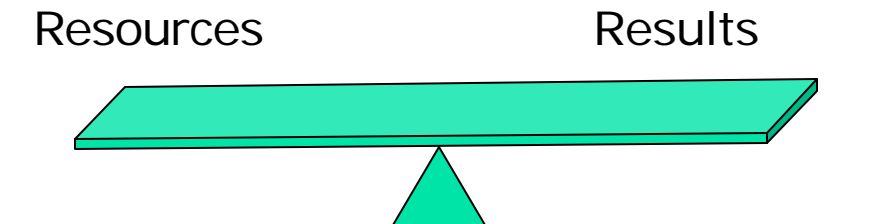
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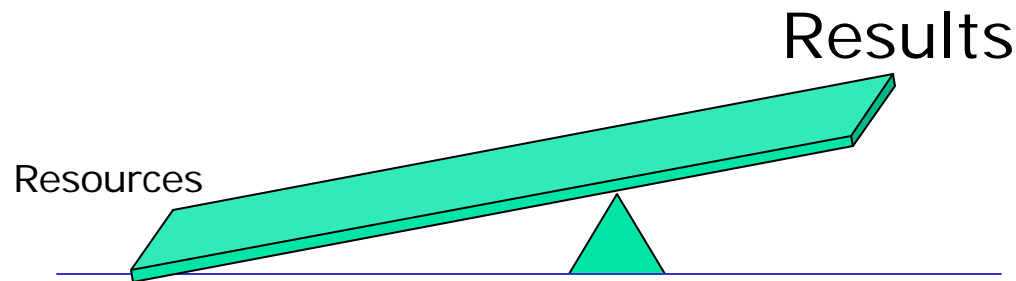
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The Need

- Improved performance
- Effective systems requiring fewer resources
- Assurance that PSM systems are achieving expected results





RBPS Will Provide

- Additional elements
- Range of element activities depending on risk
- Ideas to improve results of PSM systems
- Ideas to improve efficiency of PSM systems
- Ideas for reviewing PSM systems to be sure the systems are functioning as expected
- Metrics for each element

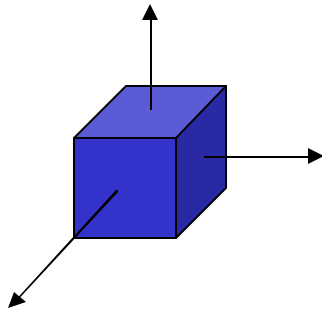


Risk-Based

- One size does not fit all
- Risk Based
 - Thoroughly understand potential consequences
 - Apply appropriate systems to achieve desired risk
 - Ensure systems are functioning as expected

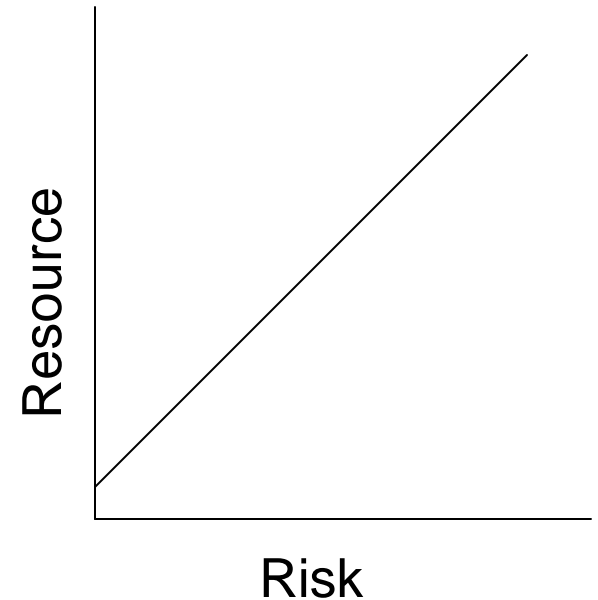
Path Forward

Additional
Elements



Broader Scope
for Each Element

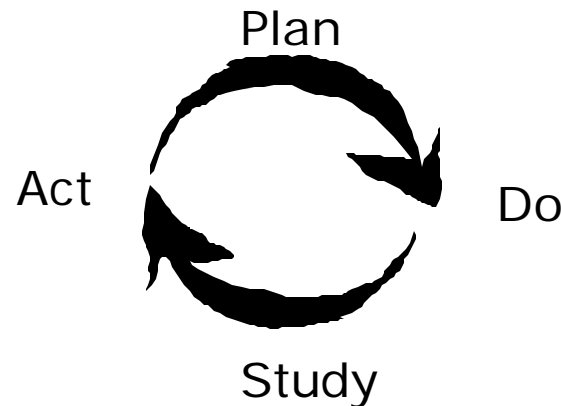
More Depth for
Each Element





Elements in Four Categories

- Commit to Process Safety
- Understand Risk
- Manage Risk
- Learn from Experience





Commit to Process Safety

- Safety Culture
- Standards, Codes, Regulations, and Laws
- Process Safety Competency
- Workforce Involvement
- Community Outreach



Understand Risk

- Process Knowledge Management
- Hazard Identification and Risk Analysis



Manage Risk

- Operating Procedures
- Safe Work Practices
- Asset Integrity and Reliability
- Contractor Management
- Training and Performance
- Change Management
- Operational Readiness
- Conduct of Operations
- Emergency Management



Learn From Experience

- Incident Investigation
- Measurement and Metrics
- Auditing
- Management Review and Continuous Improvement



Broader Scope

- Commissioning and Startup
- Operating Normal
- Operating Abnormal
- Maintenance Turnarounds
- Decommissioning

Appropriate application of elements from cradle to grave



More Depth for Each Element

- Element Overview
- Relationship to Other RBPS Elements
- Key Principles and Essential Features
- Possible Work Activities
- Examples of ways to Improve Effectiveness
- Element Metrics
- Management Review
- References



We Need Your Help!!

- We need innovative solutions
- We need mistakes you have made
- Send ideas to jlmconsulting@sbcglobal.net

